



# RTB Working Paper

## **Staple food cultures: a case study of cassava ugali preferences in Dar es Salaam, Tanzania**

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# Abstract

This study examines the relationship between food choice and food culture, in relation to staple foods and cassava in particular, within the context of migration and the urban environment Dar es Salaam, Tanzania. The analysis provides an understanding of the different drivers of food choice, and how they may differ by gender and other factors of social difference such as age, ethnicity and region of origin, in the context of a city with a rapid growth rate, and wealth and ethnic diversity.

In-depth interviews suggest that people structure their food cultures as primarily juxtaposing hard versus soft foods, and traditional versus modern foods. Ugali, particularly cassava ugali, typically falls into the latter categories. The type of ugali that one prefers, which is determined by the type of flour used (cassava, maize, sorghum and/or millet) is profoundly influenced by their region of origin. However, after migration to Dar es Salaam, people typically adopt the food culture of the city over time, which mainly consists of sembe, a processed maize-based ugali that is categorised as a modern food.

Availability, quality and storage time of cassava flour for ugali is limited. Cassava ugali also took longer, required more strength and continuous monitoring to prepare, compared to other flours. There were also negative perceptions that cassava was associated with poverty. However, perceptions of cassava's nutritional value as a 'traditional' food were positive. Cassava ugali was also considered to be one of the most strength-inducing types of ugali and therefore important for stamina, and a reason it is often consumed during Ramadan.

Social norms also played an important role in influencing people's shift towards sembe as their staple food. Ugali in Dar es Salaam is commonly viewed as a food consumed by men, because it is needed for strength. Women are perceived to undertake less physically demanding activities after they migrate to the capital, because they may move away from farm work, and are therefore more likely to prefer and consume rice. Rice and more modern foods were also preferred among youth. The different intrahousehold staple food preferences meant that different staples were often prepared by women, reinforcing the importance of ease of preparation for making ugali.

Overall, cassava plays less of a role in diets of people who do not traditionally consume cassava and among those who have settled in Dar es Salaam, particularly women and youth born in the city. However, there are also positive perceptions of cassava as promoting dietary diversity and a return to natural foods. Awareness of the availability and quality of cassava flour, particularly HQCF, and increase in the ease of preparation and storage, will require improvement if it is to be a viable alternative to the city's main staple. As both men and women consume and purchase staples in the household, products need to be geared towards the needs and preferences of men and women.

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# STAPLE FOOD CULTURES: A CASE STUDY OF CASSAVA UGALI PREFERENCES IN DAR ES SALAAM, TANZANIA

## INTRODUCTION

The field of anthropology has made considerable contributions to contemporary food studies. Early anthropologists such as Malinowski, Douglas and Levi-Strauss have emphasised the importance and symbolism of food in daily activities, practices and beliefs that are embedded with broader dynamics of social relations and social structures. Food and food choices, how people decide what they eat, is an important expression of both individual and group identity and history, rooted in particular spaces. The emphasis of food in anthropological work has made an important contribution to food studies, which are typically rooted in technical disciplines, through its emphasis on the influence of people's wider socio-economic and cultural environments in food choices, and not only a matter solely for individual decision making (Keane and Willetts, 1994). An anthropological perspective of food choice, therefore, explores food culture in which food choices are embedded. Food culture refers to the meanings, functions and roles of food in people's daily lives, and can reflect social, cultural, economic, religious, and metaphorical significance. Food culture also reflects power dynamics in social structures, and often reflect food norms and practices that differ by gender and social difference, and have over time and space.

This study examines the relationship between food choice and food culture, in the context of migration to, and the urban environment of, Dar es Salaam, Tanzania. Specifically, the study examines staple food preferences in people's daily diet, with particular emphasis on cassava, drawing on anthropological, livelihood and gender approaches. The analysis provides an understanding of the different drivers of food choice, and how they may differ by gender and other factors of social difference such as age, ethnicity and region of origin.

There have been a number of studies in the last decade that have examined the role of cassava in the food cultures of Tanzania (Caplan, 2007; Haapanen, 2011; Kinshella, 2014). These have explored the different influences and changes to the food system from pre-colonial, colonialism times, and the Nyerere Ujamaa period, which have led to considerable shifts in Tanzanian agriculture and food consumption. Caplan (2007) explored the change in staple food preferences on Mafia Island, from millet in the colonial period towards cassava and maize. With the increase in food insecurity in 2002-2004, the government and development projects promoted cassava for production and consumption, however, people's perceptions of cassava were strongly associated with poverty and food security, and the preferred staple food was rice, particularly among the wealthy classes. Kinshella's (2014) findings from an ethnographical study of the south eastern coastal village of Sinde, Tanzania, reveal similar perceptions of cassava as being related to poverty because of its role in providing food during

times of insecurity. However, at the same time, there is a shift in policy narratives of an emphasis of cassava a rural, food security food staple towards consumption among the urban working population, in addition to international export. However, this is not aligning with people's perceptions which view cassava as a traditional food, and a reflection of their poverty, the legacy of colonialism and social marginalisation.

Contemporary food study literature acknowledges and reflects the importance of social factors in food choice that has been demonstrated in earlier contributions from anthropology. For example, Turner et al., (2017) refer to the food environment, where food choice is influenced by a number of personal and external-related factors, including an individual's 'desirability' of foods that is determined by culture, attitudes, norms and perceptions. However, a limitation of more mainstream food studies frameworks such as these is in their ability to explain how and in what ways food culture influences food choice, and how it can change over time and space, particularly within in contexts such as migration. In addition, the categorisation of separate 'personal' or 'external' spheres ignores the role of household dynamics in food choices. As such, both food culture and household dynamics will be explored in this paper, within the context of migration.

## STUDY DESCRIPTION

The field of inquiry for the study of food choice and food culture is focused on, but not restricted to, food staples in Tanzania, particularly ugali and cassava ugali. Ugali is the food base for meals in Tanzania and can be made from a variety of flours such as cassava, maize, sorghum, millet or banana flour, depending on preferences. In Dar es Salaam, the most common type of ugali is prepared using maize flour, either de-husked maize known as sembe or non-de-husked maize known as dona. Ugali is typically consumed with a dish of beans and/or meat/fish/chicken and vegetables such as spinach, collard greens, amaranth greens or okra. Along the coast, coconut milk, tamarind, mangoes and seafood are used in various dishes with ugali. Regardless of class, the majority of Tanzanians eat ugali as it is easy and affordable to prepare (Bechoff et al., 2017).

This study is complemented by a 'classical consumer acceptance' study under the leadership of Bechoff and Keith Tomlins (2017). The findings from the study of food choice of 123 urban consumers in Dar es Salaam. The study found that women consumed more rice and banana, and men consumed more maize and cassava. The status of migration also had an influence on the diversity of the staple crops consumed: consumption of staples was influenced by the region people came from and newcomers had a diverse background of staples including banana, cassava, rice, maize and other minor crops whilst long established residents tended to consume mostly maize and rice. Diversity of staples was also less in adult years than in formative years. The Poverty index (calculated as Progress out of Poverty Index) had a minor effect on food habits for staples. Neither gender, nor migration or poverty index had an influence on consumer acceptance of ugali products. Most consumers (107/123) expressed a willingness to eat more cassava in the future and half had a positive image about cassava. However major constraints reported were the lack of availability of cassava to purchase, not being familiar with and a negative perception of the crop. Given the differences in food choice found in the study by gender, region,



length of settlement in Dar es Salaam, this study uses qualitative methods to investigate in detail the influence of food culture, and other socio-economic drivers, on food choices, particularly with cassava, and how this changes with migration.

## METHODS

The methodology for this study includes a literature review, in-depth interviews (IDI) with a subset of consumers from the Bechoff et al., (2017) study, and focus group discussions (FGD). A grounded theory approach was used for the study, which contributed to the development of the conceptual framework.

The study sampled a sub-set of individuals for the IDIs from the first phase of Bechoff et al.'s, (2017) study. Bechoff et al.'s, (2017) study purposively selected six locations in Kinondoni district, Dar es Salaam, in order to cover a diverse population in terms of economic class. For example, the area around Kawe Old Market was assumed to be visited by people who were of lower economic class, while a location in Tamarind outside a high-end restaurant, and was selected to include individuals from the wealthier upper class. Given the difficulties of sampling in urban environments this was considered to be a simple and effective strategy.

Individuals for the IDI for this study were randomly selected from the consumer lists used in the Kawe Old Market and Tamarind locations. The IDIs with consumers were semi-structured and based on guide questions that prompted discussion and description around food choice in childhood, during migration and after migration (Appendix A). There were 18 in-depth interviews (8 men, 10 women) that took place in private spaces in people's homes, places of work, restaurants or other locations in their community. Demographic information of the IDIs is provided in Table 1. The interviews were primarily conducted in the Kawe area, Kinondoni district of Dar es Salaam, with some additional interviews in the homes of people residing in Temeke and Ubungu districts.

**Table 1 Key demographic characteristics of consumer IDIs**

Demographic characteristic		Number of interviews	Demographic characteristic		Number of interviews
Sex	Men	8	Occupation	Small business	10
	Women	10		Services	4
Age	20-29	5		Professional	4
	30-39	4	Marital status	Single	5
	40-49	7		Married	10
	50-64	2		Divorced	2
	65+	0	Years residing in Dar es Salaam	1-4	4
Education	None	1		5-9	3
	Primary	9		10-19	3
	Secondary	7		20-29	6
	University	1		30+	2

In addition to the IDIs conducted with consumers, a FGD was conducted with a church group of 8 men and women (1 man, 7 women) and additional IDIs with food sellers conducted during market visits. In total, seven

food sellers were interviewed (5 women and two men). Three food sellers interviewed were between 21-29 years and three between 20-39 years, and one was 65 years.

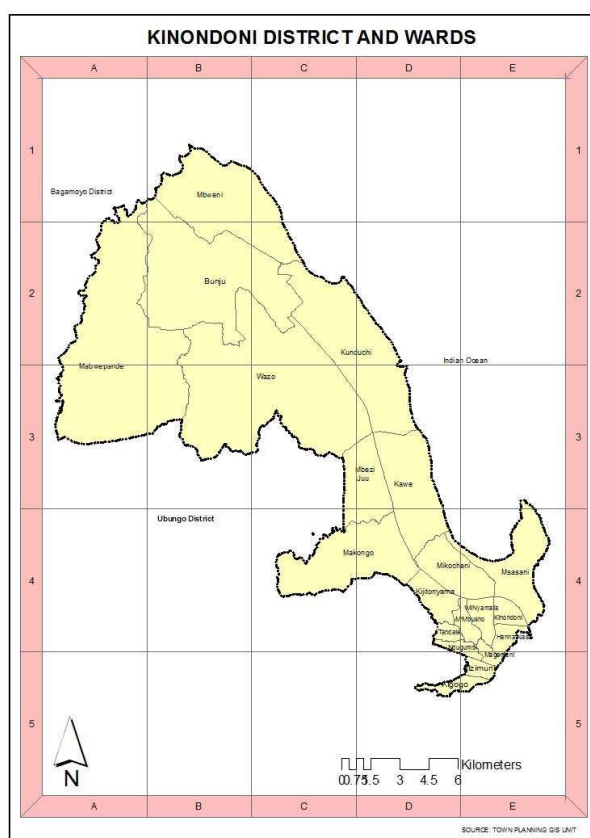
## BACKGROUND ON DAR ES SALAAM

The demographic characteristics and changes in Dar es Salaam are likely to influence food choice and culture of its inhabitants. Dar es Salaam is the 11<sup>th</sup> largest city in Africa with a growth rate of 6%. The city has grown from 2.5 million in 2002 to 4.4 million in 2012, which is a 76% increase in population. The population of Dar es Salaam is slightly older than the national average with 78% of the population aged 35 years or below, compared to 84% for Tanzania as a whole (NBS, 2014). The 2012 census identified the population of three districts in Dar es Salaam: Kinondoni (1.7 million people); Temeke (1.3 million), and Ilala (1.2 million). In 2015, Dar es Salaam was divided further in to two new districts: Ubungo (.8 million) previously under Kinondoni and Kigamboni previously under Temeke. The largest sectors of employment in Dar es Salaam are service work, shop and stall sales work (20%); street vending and related work (14%) and crafts and related work (14%) (NBS, 2016). In contrast, for the country as a whole, the major sectors are farming (63%); elementary occupations (6%) and service work, shop and stall sales work (6%) (NBS, 2014). In 1912, German rulers divided Dar es Salaam along three ethnic zones, Indian, African and European. This spatial distribution of the population based on ethnicity persists today, with a large Indian population in the downtown district of Ilala, European on the peninsula and Africans in the surrounding areas (Brennan, 2007).

The research primarily took place in Kinondoni district. The district has a 42km long coastal stretch which includes the Swahili fishing communities<sup>1</sup>, along with numerous houses of the wealthy elite who may have differing food cultures and food choices. The remaining area is inhabited by people of low to middle income working in small businesses or in nearby industrial areas. A profile of the Kinondoni district (2016) reports that 61% of its population work in the private sector, 35% are self-employed, and 4% are public sector employees. Kinondoni district has both planned and unplanned areas. Mbezi and Msasani have both planned low density areas, while areas such as Kawe, the location of the interviews, Manzese, and Magomeni, have average plot sizes of 200m<sup>2</sup> and have a shortage of basic services and public utilities. Kawe has a population of 94,535 and a population density of 50 persons per hectare.

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<sup>1</sup> The Swahili are a mix of Arab and the Zaramo (a local ethnic community found along the coast).



Source: Kinondoni Municipal Profile, 2016

The 2012 Population and Housing Census in Tanzania reported that urbanisation is taking place rapidly, increasing from 4.7 %to 10.8%, and 7.8 million Tanzanians live outside the place of birth. Dar es Salaam has strong economic pull and has positive net migration. Dar es Salaam, as the largest urban centre in the country, has the highest proportion of in-migration at 30 percent and highest level of urbanisation (3%) (Table 2). The regions with highest out-migration (as a percentage of non-migrants) are Kusini Unguja (53%), Pwani (43%), Shinyanga (43%) and Kilimanjaro (39%). The regions with lowest out-migration are Mbeya (10%), Manyara (10%) and Mjini Magharibi (10%) (NBS, 2015).

**Table 2 Migration statistics for Dar es Salaam**

2002			2012		
In-migrants	Out-migrants	Net migrants	In-migrants	Out-migrants	Net migrants
1,208,479	237,446	971,033	2,266,013 (30.8%)*	269,126 (3.7%)*	1,996,887

\*% of national average

Source: NBS, 2015





## STAPLE FOODS IN TANZANIA

Typically diets in sub-Saharan Africa consist of one or two staple foods, the most common of which are maize, teff, cassava, yam, sweet potato and banana. To complement these, legumes, animal products and green leafy vegetables are added. However, urbanisation is influencing these practices and food consumption patterns more

generally. According to Oinang'o et al., (2003), urbanisation is also influencing consumer preferences away from traditional foods towards processed foods, which is contributing to obesity and increased diabetes in urban areas across the continent.

In Tanzania, the staple foods are *ugali*, cooked banana or rice. *Ugali* is consumed by the majority of Tanzanians and is made from cassava, maize, sorghum and millet flours, either singly or mixed. The common types of *ugali* are listed in the table below. The staple food in Tanzania, similar to other parts of sub-Saharan Africa, has a significant socio-economic and cultural role in the livelihoods of rural and urban dwellers. Type of *ugali* found in Tanzania are shown in Table 3 below. Types of *ugali* include *sembe* and *dona*, both maize-based *ugali*, the former particularly popular in Dar es Salaam and other urban areas, and fermented cassava *ugali* called makopa, and unfermented, whitish cassava *ugali*. Cassava *ugali* can also be made with High Quality Cassava Flour (HQCF) but this product does not have a specific name. This may be a reflection of low awareness people have of HQCF products. It also presents difficulty for the interviewers and respondents in specifying the type of cassava flour that they are referring to.

**Table 3 Types of *Ugali* in Tanzania**

Type of <i>Ugali</i>	Description	Photo
<i>Sembe</i>	Made from white (de-husked) maize flour. It is a popular product and a staple food in Dar es Salaam.	
<i>Dona</i>	Made from maize flour with the husks.	
Cassava- <i>ugali</i>	Whitish-cream colour product is present on the market in Dar es Salaam but it is a relatively new product	
Makopa	Traditional cassava flour fermented and sun-dried (in general for 2 weeks) with a brownish colour	

## FINDINGS

### FRAMING THE FOOD WORLD

Levi- Strauss drew on foods and food categories to establish a structure to explain social order in a given context (Levi-Strauss, 1963). This section draws on this approach, and describes how the interviewees themselves

structure their food world, and subsequently, their food norms, providing the broader context for understanding *ugali* preferences. This includes two types of food dichotomies, hard versus soft foods, and traditional versus modern foods. These categories were shared widely among the respondents and triangulated with key informant interviews, with contradictions appearing only on how certain foods were categorised. These dichotomies are explained in the remainder of this section.

### Hard vs soft

The interviews suggested a structure of food cultures as primarily juxtaposing hard versus soft foods. This primarily refers to the texture of the food, the sensation of fullness and the time the sensation persists following the meal. Hard foods may be stretchy or tough in texture, and provide a high degree of sustenance and strength for an individual. In contrast, soft foods are not as filling and people will be quicker to hunger if they are consumed. *Ugali* is typically considered a hard food, including cassava, maize, sorghum and millet *ugali*. However, banana is considered a soft food, along with rice. But this can be contradicted by people from regions where banana is the staple food: *“people think that banana is a soft food but I disagree. Banana is a food for energy”* (female, 30-39, Kilimanjaro).

The interviews revealed that most fruits and vegetables are considered to be soft foods. It is advisable to consume soft foods during illness and recovery, such as after giving birth. Hard foods should be consumed when strength and endurance is required, particularly for physically labour.

The categorisation of hard and soft foods is also gendered. Perceptions among the interviewees are that women, particularly upper class women and urban women in Dar es Salaam, prefer soft foods, such as rice, compared to hard foods like *ugali*. This is because these women are not considered to be undertaking strenuous activity. However, women from the regions eat *ugali* because their work is more physically demanding. Therefore, the consumption of rice or *ugali* is related to class, in addition to gender. Interestingly, these norms did not apply to men, even to men in urban areas and who did not undertake physical labour.

*“Women and men eat the same foods because we do the same work. But in the city women change because they don't do this type of labour”* (male, 40-49 years, Linde).

*“Men like ugali more, maize or cassava ugali, because when you eat it you get strong. Rice too makes you strong but not as strong, so women eat more rice”* (female, 40-49, Tanga).

### Traditional vs modern

The interviews also revealed a further classification of foods into traditional and modern. The word for traditional food was referred to food from *asili*, a Swahili word meaning a person's origin, roots, birth or essence. It can also imply a physical place such as the place of one's birth or childhood, or to their cultural heritage that is not necessarily rooted to particular spaces. Therefore the word signifies a conflation of the time and space, whereby traditional represents both the past and the region where the interviewees were from.<sup>2</sup>

Traditional foods refer to foods consumed in the regions, outside of Dar es Salaam, and in most cases, have been consumed by many generations (except for cassava). Foods in this category were dependent on the region the person originates from, but generally include cassava, *dona* (maize *ugali* with husk), sorghum, millet, and in some regions, banana and rice. Modern foods include chips, oil, mandazis, bread and rice. Migration exposes people to such 'new' foods.

*Sembe* crosses the traditional/modern food binary. While *sembe* is an *ugali*, which is considered a traditional food, people perceive *sembe* to be a modern food because it is processed and strongly associated with city life in Dar es Salaam. In fact, the far majority of interviewees stated that they began eating *sembe* only after they

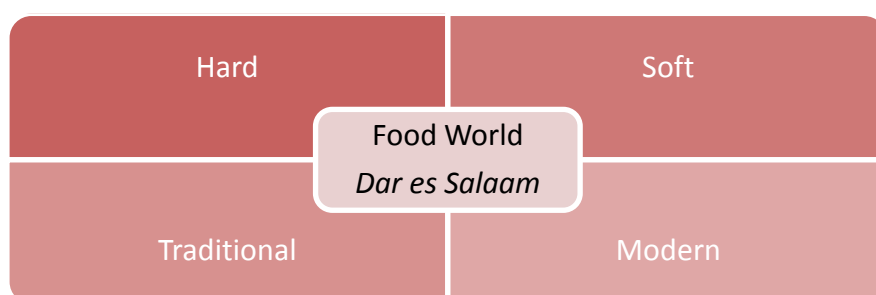
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<sup>2</sup> Therefore a traditional food, a food of *asili*, may not be the main food in the region the persons' region of origin at present time, as it may also have changed during the absence of the interviewee.

migrated to Dar es Salaam, and that it was now a major food staple in their daily consumption. HQCF was also considered a modern product, but did not have the widespread popularity as a specific type of *ugali* as *sembe*, and awareness of HQCF was found to be relatively low.

Modern foods were perceived to be more expensive but less time consuming to prepare, and therefore an important part of modern and urban life in Dar es Salaam. People who were less wealthy also reported eating *dona* and modern foods such as *sembe*, but rice less frequently (eaten on holidays and special occasions), due to its expense.

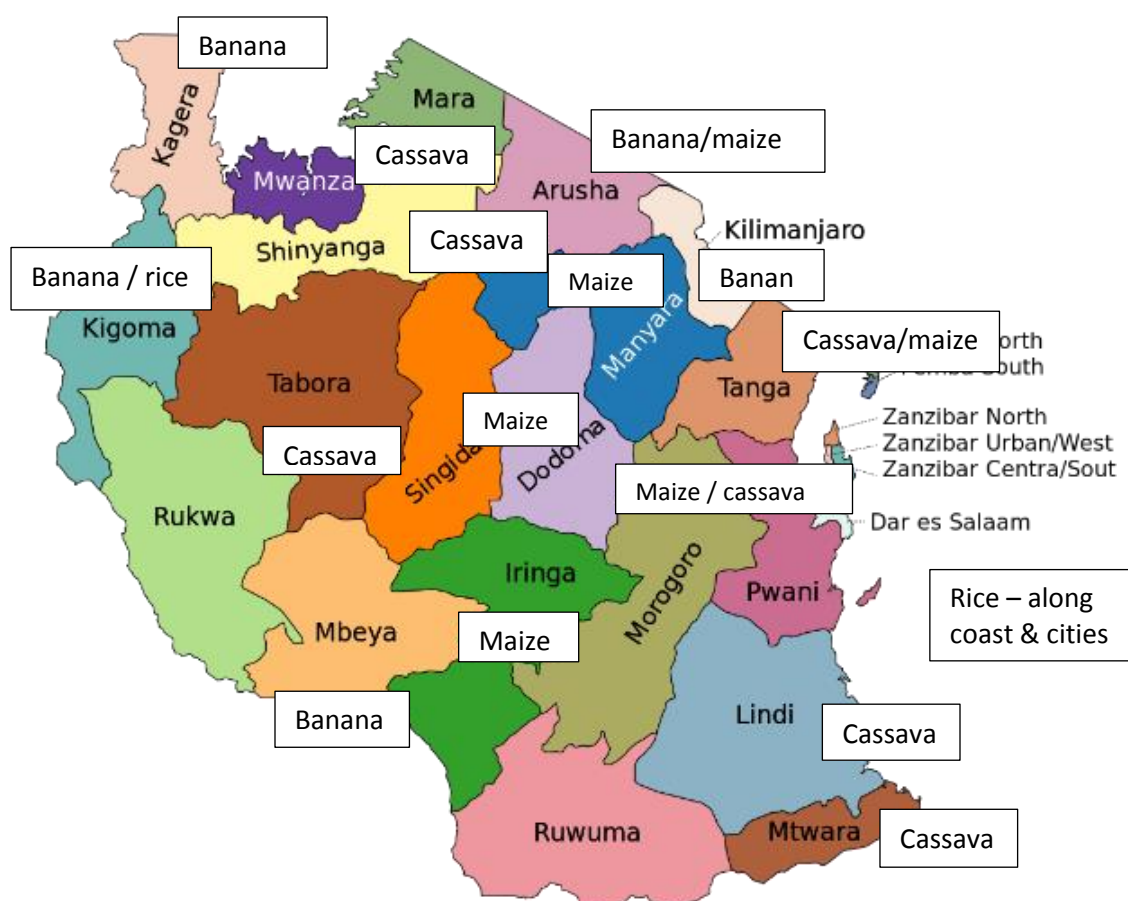
Traditional foods did not always reflect foods that were consumed in the past. For example, one female interviewee stated that her community traditionally did not grow cassava but that it started with government promotion for food security. However, cassava was still considered a traditional food. This contradiction was also identified in research by Kinshella (2014) in Sinde.



**Figure 1 Structure of the food world in Dar es Salaam, Tanzania**

## STAPLE FOODS IN MY *ASILI* (PLACE OF ORIGIN)

*Ugali* was the most common *asili* staple food for the interviewees. However, there were regional differences. The interviews show that cassava is the staple food of the south and northern parts of the country around the Lake Zone, maize in the central areas and banana in the northern areas and along the coast. Some of the respondents from the northern and coastal regions, particularly Kilimanjaro, consumed banana and rice as their staple foods and not *ugali*. The map of Tanzania below shows the main staples consumed by the interviewees in their place of origin (Figure 2).



**Figure 2 Main staple consumed by interviewees in their region of origin**

*Ugali* is generally eaten daily once to three times a day and more commonly for lunch. Some people feel that a person is not considered to have eaten if they have not had *ugali*. Among the interviewees, people commonly ate different types of *ugali* depending on seasons and availability. Flours from different crops were also mixed. Therefore people consume a range of *ugalis* from a mix of different flours throughout the year.

For example, a woman from Mbeya who moved to Dar es Salaam when she was 19 remembers eating *ugali* once or twice a day, from a range of staples including banana, maize *ugali*, cassava *ugali* and rice. A woman from Iringa also consumed *dona*, millet *ugali*, and sorghum *ugali*, but the flours were never mixed together. A young man between 21 and 29 from Singida would eat *dona* and cassava flours mixed (daily) or *dona* on its own when maize was available (few months of the year), with the occasional dish of *sembe* (once a month approximately).

*Ugali* is considered a ‘hard’ food because it provides strength for people undertaking strenuous physical activity. That is why it is associated with the place of origin that is usually agriculture-based. The association of *ugali* with strength remains with people after they migrate. Among interviewees who ate different types of *ugali* growing up, or mixed flours in their *ugali*, cassava and *dona* were considered to provide the most strength because they were perceived to be the most nutritious.

*Ugali* is considered a ‘traditional’ food of *asili*. It is also associated with mothers and childhood, as *ugali* is prepared by mothers and fed to children. For some of the interviewees, their mothers were from a different place from where they themselves grew up, and therefore they were exposed to the staple food of their mother’s culture. In some cases this also applied to the father.

*“It’s your mother’s place that influences you”* (female, 40-40, Tanga)



*“Our roots shape us. It is our background and our mothers. This is why I sell bananas in Dar; so I can eat them cheaply” (female, 40-49, Kilimanjaro).*

However, *sembe*, *ugali* made from dehusked maize flour, is considered a ‘modern’ food because it is processed and consumed mainly in Dar es Salaam. Banana and rice, also staples, are considered as soft foods. However, this was disputed by two interviewees who considered these crops as hard foods because indeed, they provided them with strength as they were their staple food, similar to the points on hard vs soft foods made earlier.

*“People not from my region ask me all the time how I can I get any strength if I eat so many bananas, which are a soft food. But it is a hard food. I feel ok and I am strong, I use to farm and it was ok” (female, 40-49, Kilimanjaro).*

Different types of staple foods including *ugali*, are more likely to be consumed in certain regions of the country. This supports findings from Bechoff et al., (2017), that found people ate a larger variety of staple foods prior to migrating to Dar es Salaam.

## SOCIAL DIFFERENTIATION IN EATING SPACES

There were different eating arrangements of the interviewees in their place of origin compared to the present in Dar es Salaam. Many interviewees spoke fondly of communal eating arrangements that were thought to encourage unity among family members. Depending on the local tradition, men and boys, women and girls, would have their own pots of food to share from. In other areas, men would have their own plate, and the mother and children would have their own pot. These arrangements show hierarchy within the family and restriction of relations between members of the opposite sex. However, in the Kilimanjaro region practices were different.

All interviewees stated that all family members would eat the same foods. For example, if maize *ugali* was prepared, the entire family would eat maize *ugali*. Therefore the gendered food preferences did not become apparent until people migrated to the city and women were not undertaking strenuous labour.

*“In my community, men eat from their own plate. The children and their mother would eat from a separate, common plate. They eat from the same plate for the family to be united. The father has his own plate because he is head of the house and it’s for respect. But in my family, in Dar es Salaam, everyone eats from their own plate and at different times. This is because we are influenced by other cultures in the city” (female, 50-64, Mbeya).*

## CHANGES IN STAPLE FOOD PREFERENCES FOLLOWING MIGRATION

Stories of migrating and settling in Dar es Salaam indicated that the migration period was a challenging time in the lives of the interviewees. It was usually undertaken in their late teens or early 20’s, prior to marriage. The majority of respondents came in search of employment and business opportunities, along with education. Importantly, for three of the respondents, they had made more than one move prior to settling in the city. Prior to migration, most of the interviewees described that they were introduced to family members or had friends in the city that they stayed with until they became self-sufficient. There were two instances where respondents described difficult circumstances where their contacts fell through or family members were unhelpful, adding difficulty to the already challenging situation.

At the same time, respondents described an exciting period after their initial migration when they were exposed to foods from different regions. For people moving from far inland to the coast, seafoods and certain spices were considered exciting and foreign foods that they had never seen. Others mentioned new fruits and vegetables. Respondents also described their exposure to different types of staple foods and *ugalis* from around the country.



One man from Iringa said he had never seen a cassava *ugali* before he came to Dar es Salaam, along with different ways to prepare food that were not as healthy for the consume.

*“New foods for me were food from the sea, spaghetti, and foods for Ramadan. I also learned new ways to prepare potatoes and cassava, such as boiling cassava with oil. Frying with oil was new, but I know that the cassava loses its nutrients in this way and it is different than boiling”* (male, 20-29, Kilimanjaro).

Changes in diets were often a slow process and are most striking among those who have been settled in Dar es Salaam for 20 or more years. Networks based on family and cultural groups in Dar es Salaam enabled migrants to access some of the foods from home, including *ugali* flours, which were often considered to be better quality than the different flours sold in Dar es Salaam.

In terms of changes in staple food and *ugali* consumption, the interviews found that the majority of people in Dar es Salaam consume *sembe* and rice, and the majority of interviewees described that they started to consume *sembe* and rice once they moved to the city. These foods represent more ‘modern’ and ‘soft’ food that is related to urban living, along with the foods that are preferred in coastal cultures of Tanzania. They also related this to lack of time to prepare foods from home, and the negative health implications of urban diets.

*“The change in my diet when I migrated to the city was that I started to eat sembe and rice. We didn't eat these foods in my village. No one in my village would eat sembe even if I brought it to them. I would eat alone if I ate sembe in my village. They are used to dona. People in my village would be surprised *ugali* is white and soft. They are used to firm and brown”* (male, 20-29 years, Dodoma).

*“I started eating more sembe once I moved here. People in the city like milled maize [*sembe*] but not in the villages. It's the environment you have to get used to it. No one has time to make flour like in the villages”* (male, 50-59 years, Iringa).

*“Some people change their habits and start to consume unhealthy foods once they move to the city. But for some they make an extra effort. But most people take the habits of the city. In the city the culture is sembe and sodas”* (female, 30-39 years, Manyara).

*Ugali* consumption in Dar es Salaam continues to represent consumption for energy and strength. In light of the availability of new products such as *sembe* and rice, people perceive *ugali* more related to work. As the quote below demonstrates:

*“When we see *Ugali*, we know it's a work day”* (male, 20-29, Iringa).

An important finding, however, is that migrants did not have one staple food in their village of origin or in Dar es Salaam. They consumed a range of different products, which make it difficult for people to quantify their food habits retrospectively. Despite this challenge, there is still a notable decline in the range of staples consumed among the interviewees while in Dar es Salaam. Furthermore, Table 3 below shows that while the majority of interviews changed to modern foods of *sembe* and rice, and away from the *ugali* of their origin, there were some interviewees who continued to consume the foods from their home region. This was because these individuals were committed to consuming healthy foods and foods that represented their traditions. In these cases, they purchased cassava flour, milled crops like maize in town, brought it back when visiting their village, or prepared it from their own farms in or outside the city. This involved an investment of time, often women's.

**Table 4 List of interviews and demographics and staple foods consumed**

No	Gender	Region of origin	Age	Years in Dar es Salaam	Staple food (translated at what is your <u>main food</u> - <i>chakula kikuu</i> )		
					Region of origin	Dar es Salaam	Change
1	M	Mara	40-49	20	Cassava <i>ugali</i>	Cassava <i>ugali</i>	Same cassava <i>ugali</i>
2	F	Mbeya	50-64	30	Banana, <i>dona</i> , cassava <i>ugali</i> , rice	Mixed cassava, maize and wheat <i>ugali</i> flour	Less banana, more wheat
3	F	Tanga	40-49	35	Cassava <i>ugali</i> , <i>dona</i> , and occasionally rice	Cassava <i>ugali</i> (her and husband), and rice and mix cassava and maize <i>ugali</i> (children)	Same cassava, <i>ugali</i> , more rice, more mixed <i>ugali</i>
4	F	Iringa	40-49	25	<i>Dona</i> , millet <i>ugali</i> and sorghum <i>ugali</i> (unmixed)	<i>Dona</i> and <i>sembe</i>	Less millet and sorghum
5	M	Lindi	40-49	20	Cassava <i>ugali</i> , <i>dona</i> <i>ugali</i> , sorghum <i>ugali</i> , occasionally rice	<i>Sembe</i> mainly, cassava <i>ugali</i> twice a week, rice	Less cassava <i>ugali</i> , less sorghum
6	M	Kilimanjaro	20-29	2.5	Bananas, cassava <i>ugali</i> and <i>sembe</i>	<i>Dona</i> and occasionally <i>sembe</i>	Less bananas, less cassava <i>ugali</i>
7	F	Singida	40-49	28	<i>Dona</i> , cassava and maize <i>ugali</i> or mixed with sorghum, <i>makande</i> (maize with beans)	<i>Sembe</i> and rice	More rice, less cassava and sorghum
8	M	Arusha	40-49	24	Rice, bananas, <i>dona</i> and <i>sembe</i>	<i>Sembe</i> and rice	Less banana, and <i>dona</i>
9	F	Mbeya	40-49	15	<i>Dona</i> , banana, rice	<i>Sembe</i> and rice	Less banana
10	F	Manyara	30-39	18	<i>Dona</i>	<i>Sembe</i> and rice	More rice
11	F	Kilimanjaro	30-39	7	Banana, <i>dona</i> or <i>sembe</i> <i>ugali</i> , bananas	<i>Sembe</i> and rice	Less banana, more rice

Table 3 cont.

No	Gender	Region of origin	Age	Years in Dar es Salaam	Staple food (translated at what is your <i>main food</i> - <i>chakula kikuu</i> )		
					Region of origin	Dar es Salaam	Change
12	F	Kilimanjaro	50-64	28	Bananas, rice, <i>ugali</i> , cassava, potatoes	Mixes cassava, <i>dona</i> and wheat	Less banana, more maize, more wheat
13	F	Kagera	30-39	2	Bananas, <i>dona</i> , sweet potatoes, cassava and rice	Bananas, <i>sembe</i> and rice	Less cassava, less sweet potatoes
14	F	Kilimanjaro	20-29	3	Bananas, rice, <i>dona</i>	<i>Dona</i> , less often cassava <i>ugali</i> , <i>sembe</i> , sorghum <i>ugali</i> (living with her mother's family in Dar whose staple is cassava)	More cassava, more sorghum, less bananas, less rice
15	M	Iringa	20-29	4	Cassava <i>ugali</i> , <i>dona</i> maize and beans ( <i>makande</i> )	<i>Dona</i> and <i>sembe</i>	Less cassava
16	M	Mtwara	30-39	14	Maize <i>ugali</i> , cassava <i>ugali</i> , occasionally rice	<i>Sembe</i> , rice	Less cassava, less rice
17	M	Singida	20-29	6	<i>Dona</i> , cassava <i>ugali</i> , occasionally <i>sembe</i>	<i>Sembe</i> , occasionally <i>dona</i> , sometimes with cassava	Less cassava
18	M	Dodoma	20-29	7	Sorghum <i>ugali</i> , maize <i>ugali</i> , cassava, and millet <i>ugali</i>	<i>Sembe</i> , <i>dona</i> and rice	Less sorghum, less cassava, less millet

As mentioned previously (section *Social differentiation in eating spaces*), people who migrated to Dar es Salaam also changed their eating arrangements, whereby each household member would eat from their own plate, and often at different times from each other. People viewed this negatively because it did not allow for families to interact with each other.

### Women and youth / soft and modern

Staple food preferences in Dar es Salaam reflected differences by gender and age, which was not apparent when interviewees described their food choices in their place of origin. As reflected in the earlier section on soft foods, rice consumption was related more to women, young children and youth (usually considered 30-35 years and under). This finding was also found in Bechoff et al., (2017), where settled women consumed more rice than men. The interviewees explained that this is because rice is considered a soft and lighter food, which is more appropriate for women and youth who do not need to engage in what is perceived as strenuous labour once they move to the city.

*"Women eat more rice. They like lighter food. And chips. Not my wife. We just eat rice on holidays because it's expensive. We eat ugali"* (male, 20-29, Iringa).

Youth were also found to prefer other modern foods, such as chips. One young man who was a cook in a small, local restaurant explained that all his friends eat modern foods. For young people, their parents have an important role in determining what foods are available at home.

*"Young people like sembe, even girls. Youth who are born here don't eat traditional foods. It depends on what they find at home and if the mother cooks it. No youth will cook it for themselves. Everyone eats ugali it doesn't matter where you are from. But when you are married [you] go to traditional foods like ugali for lunch and rice for dinner"* (female, FGD, Morogoro).

Young women in particular were found to be associated with the consumption of chips that are purchased as street food. There was also a common perception that young women eat chips when they are 'lazy' or pregnant. The laziness refers to women eating fast food instead of preparing their food at home.

*"Girls eat chips because they get lazy"* (female, 30-39, Kagera).

*"90% of women would not order ugali. They order chips because it's a soft food. Young women eat a lot of egg and chips and are getting fat"* (male, 20-29, Kilimanjaro)

*"Cassava-ugali is our tradition. Staples give you strength. We are always busy working and farming in the villages. Cassava and maize are the most strength inducing. I eat the same because I do the same work. But in the city women change because they don't do this type of labour"* (male, 40-49, Linde).

Interestingly, the interviewees reported that once a couple marry, they will return to eating more traditional foods such as *ugali*. Perceptions were that men and women would start to consume *ugali*, but it was laughable for interviewees to think that a young woman or man would make *ugali* to consume on their own. This shows that marital status may be a factor in food choice, particularly with regard to staples and traditional food consumption.

*"My children would not cook cassava ugali" as she laughs, "maybe they would prepare ugali when they are married"* (female, FGD, Morogoro).

The lack of interest and preference for traditional foods, like *dona* and cassava *ugali*, was a source of worry for parents, particularly for health reasons. Six of the interviews with men and women indicated that they undertook measures to expose their children to foods from their region. This also reinforces the differences between traditional and family history compared to modernity in foods. One man explained that he sent his three children back to his home community in Linde in order for them to learn the language and positive and healthy habits, including eating traditional foods.

*"The food you make yourself is always better. Older people eat healthier and homemade food. Kids have so many influences and they don't have the same taste they like oil and fried things"* (woman, 30-49, Kilimanjaro).

## INFLUENCES/DRIVERS OF CASSAVA PREFERENCES IN DAR ES SALAAM

There were a number of factors, or drivers, which influenced the staple food, and *ugali*, preferences among the interviewees in Dar es Salaam. As discussed in the previous sections, the region that individuals are from profoundly shapes the food preferences in later life. However, there are a number of other drivers that influence, and change, preferences in an urban environment. This section focuses specifically on cassava products.

- **Preferences are influenced by socio-cultural norms and environments**

There were a number of examples from the interviews that indicated the important social influences that led to their change in diet after migration to the city. One man described that in the apartment complex in which he lives, there were six families sharing a common outdoor area. In the outdoor area, the families cook outside and often eat together and share food. He believed that if he made cassava *ugali* it may be considered by the other families as ‘antisocial’ as they do not eat those foods.

*“If you move to the city you are met with sembe. You visit people and that is what they eat. Everyone around you eats it. So you start preparing it as well. It is part of the coastal culture. Along with rice. So I ate sembe during the day and rice at night, which is the culture here. Everyone here cooks food and talks and shares food” (male, 30-39, Mtwara).*

Another man from Linde stated:

*“Here [in Dar es Salaam] people eat rice. In my village [in Linde] its makopa (fermented cassava ugali). We also don’t have potatoes in my village. In the village people eat ugali three times a day. I am used to cassava ugali but here I eat sembe daily. Every three days I ask my wife to prepare cassava-ugali. If I prepare food and have visitors, I have to share the food and they need to like it. I eat cassava ugali to satisfy my own heart but I don’t want people to think I seclude myself. I want to show that I am open and I eat with them. I am adapting to the people around me. But I still need cassava. Others from Linde do the same. It’s our culture. If I went home, I would ask them to prepare cassava ugali for me” (male, 40-49, Linde).*



*Shared outdoor space in an apartment complex*

A woman interviewed also related cassava *ugali* to antisocial behaviour. She explained that visitors come to her home unexpectedly and she could not feed them cassava *ugali* because most people do not like it and/or are not from areas where they are used to consuming it.

*“In Dar if you cook it [cassava] people won’t eat it” (male, 20-29, Iringa).*

- **Cassava was strongly associated with Ramadan**

Cassava porridge was consumed by Muslims daily before sunrise during Ramadan. As the quote below demonstrates, this is because of cassava’s association with strength. Cassava porridge was also given to infants and young children. Cassava was prepared as a porridge because it is considered to ‘soften’ the ‘hardness’ of cassava, and make it easier on the body to digest, as opposed to other cassava products like *ugali*.

*“Cassava is symbolic for strength. That is why it is eaten during Ramadan while people are fasting. You can go a long time without eating again” (male, 30-39, Mtwara).*



*Sale of cassava roots and flour during Ramadan, Kinondoni district*

- **For some people, cassava *ugali* was associated with poverty but this was disputed by others**

The study found that there was a perception that cassava *ugali* was associated with poverty, and therefore a likely deterrent for consumption, particularly in social circumstances. This was also found in the literature review and the study by Bechoff et al., (2017:10, 14), where makopa in particular, a darker and bitter cassava *ugali*, was considered a “poor man’s food” (Bechoff et al., 2017:10, 14).

Two individuals associated cassava with food insecurity, also related to poverty:

*“You eat cassava ugali when you are poor and have nothing else. It is also the region you are from. There is cassava in every region, but people eat it when things are tough” (female, 40-49, Iringa).*

*“It’s poverty not your region that makes you eat it. It’s not a real food” (female, 20-29, Kilimanjaro)*

*“It is hardship that has made me learn about cassava ugali. Where I am from the maize is so unstable, so we mix cassava flour with maize to have ugali” (male, 20-29, Singida).*

However, not everyone shared the opinion that cassava and cassava *ugali* were associated with poverty. As the quotes demonstrate below, interestingly from regions where cassava is the main staple, some felt that cassava consumption did not reflect economic status:

*“Everyone eats cassava ugali, it is not associated with low or upper [wealth] class” (male, 40-49, Linde).*

*“When people see you eat cassava ugali they know it’s because of your roots and what it is you ate before coming to Dar; that it is not because you are poor” (male, 20-29, Iringa).*

In further contrast, one man associated cassava *ugali* with wealth:

*“If I see someone eating cassava ugali I would think they are doing well because is hard to find and they have more money. Not that they are poor” (male, 30-39, Mtwara).*

- **Traditions from home, like food, do not disappear in Dar es Salaam and are actively promoted by some parents**

In a number of interviews with men, they described the importance of teaching their children about traditions and the culture from home, which included eating the foods from that region consumed by their parents.

*"I send my kids back to the village so they can learn their culture. Here there is no tribal language, the environment is different and they get spoiled. In the village you grow up and know your own opinions. You are focused and know who you are. Food plays a role in culture"* (male, 40-49, Singida).

*"Cassava and maize ugali is the most strength inducing. You learn about this from your elders, its traditional. As you grow you copy their habits"* (male, 40-49, Linde).

- **Nutrition and health concerns influenced cassava consumption**

The interviews suggested that healthy foods were considered to be natural, unpackaged foods, often from their place of origin. *Ugali* that had brown flecks in its colour was also considered healthier. Healthy *ugali* was also fresh and hot. Healthy food was also associated with feelings of satisfaction or fullness.

Cassava, particularly cassava *ugali*, was considered a natural food that was perceived to be beneficial for health. This perception is not necessarily accurate given that cassava is low in micronutrients, but it is an important source of calories. However, all the interviewees recognised that there was an increasing shift in the culture in Dar es Salaam, in the past five to three years, towards natural, unpackaged foods in addition to increased awareness and information on nutritional foods through the media.

*"Cassava is eaten because it is good for education [concentration]. Kids that eat sembe are undernourished, but older people eat healthier and would eat cassava ugali"* (female, 40-49, Tanga).

*"People are realising that the food we are eating are causing illnesses. There is like an awakening. People are becoming more conscious [about the foods they eat], because of information from the internet, media, and doctors. People want food made for them now, they want to order it and see it prepared"* (male, 20-29, Singida).

*"From about 2 to 3 years ago, people with diabetes were told by doctors that they should eat dona . For youth, their bodies are weak and they don't need eat food for strength. We are advised to eat 1. dona, 2. cassava ugali, 3. Potatoes, 4. Beans, 5. pigeon peas... You don't get strength from white flour"* (female, 40-49, Iringa).

However, consumption of what is perceived as healthier foods was not associated with city living where milled *sembe* was the dominant food. As the quote below demonstrates, this is associated again with the lack of time people have to prepare alternative foods, which implicitly refers to women's time as they are typically responsible for food preparation in the majority of households.

*"I started eating more sembe once I moved here. People in the city like sembe because the maize is de-husked. People in the villages don't like de-husked maize because you lose vitamins. And the taste is different, you can taste the vitamins. But in Dar, this is the environment and you need to get used to it. No one has time to make flour like in the villages"* (male, 20-29, Iringa).

- **Availability and quality of cassava flour was perceived to be difficult for some, but not others**

A number of the interviews stated that cassava flour to make *ugali* or cassava *ugali* already prepared was not readily available. People reported that cassava flour was difficult to find, poor quality, or not the type that they would like to see (whiter, non-fermented). People that sell prepared food would only sell *sembe* and rice dishes (confirmed with interviews).

*"On the street you only get sembe and rice"* (male, 30-39, Mtwara).

*"I would buy cassava flour if it was available like sembe. Maize has chemicals"* (female, 40-49, Mara).

*"The quality of cassava flour is very bad so I wouldn't buy"* (female, 20-29, Killimanjaro).



*"It's not expensive, people think that because it's not available. But it's cheaper than maize (1500TSH compared to 1800TSH per kg)" (male, 40-49, Linde).*

*"There is a season for cassava. Otherwise if you buy it out of season it is out of date from not being sold" (female, 30-39, Kagera).*

*"I also cook maize ugali and cassava ugali. my friend brings the cassava flour from tanga. cassava ugali isn't available. People in city want simple food and they don't need the strength" (male, 20-29, Kilimanjaro)*

The problem of the lack of quality and availability of cassava flours meant that people that traditionally consumed cassava *ugali* needed to find alternative foods, as the quote below demonstrates:

*"In the city you can't tell what kind of cassava you are getting" (female, 40-49, Mara).*

*"I used to eat cassava ugali when I first came here but it was so much effort. Women don't make it because it's too hard to sell. So they may mix it with sembe so it is easier to make. people in dar are from villages so they know how to cook it" (male, 40-49, Linde).*

The contrasting opinions, and the fact that cassava flour could be found in nearby shops and markets, may indicate that people's reports that cassava is not available may be misleading and more about lack of interest.



*Shops around Kawe market selling cassava flour (1kg). The product on the left is specifically for babies.*

People's opinions differed with regard to which cassava flour they preferred, white or dark, bitter or non-bitter. There were contrasting reports of what type of cassava flours were available and differences in what people preferred:

*"When we go to the village the cassava flour is whiter and non-fermented. But it is not available in Dar" (female, 50-64, Mbeya).*

*"White cassava flour tastes the best" (male, 40-49, Mara).*

*"Darker cassava flour isn't as available. But it tastes better and there are more vitamins. Also takes a long time to prepare" (female, 40-49, Tanga).*



- **Cassava flour, compared to *sembe* flour, was considered to have a shorter spoilage time, and could usually only be purchased in small quantities, which was a deterrent in people purchasing and consuming cassava flour**

The short length of time cassava flour could be stored compared to other flours like *sembe* was a key reason why people consume more *sembe* in Dar es Salaam. Other flours, like cassava flour, have to be bought in smaller quantities because of the flour will spoil quickly, with *sembe* they can buy 5kg, 10 or 25kg and keep the flour in their homes.

- **Cassava *ugali* was also considered to be difficult to prepare, requiring time and strength**

A barrier for families to prepare cassava *ugali* was its difficulty in preparation, in terms of time and strength required for stirring.

*“The white cassava flour from my village is more common and easier to cook. It is also more nutritious. It’s lighter in colour but hard to find” (female, 40-49, Iringa).*

*“It’s difficult to make – you have to know how to make it. It’s hard to stir because it’s so sticky. People don’t have the energy to prepare it. My wife makes cassava flour but doesn’t sell it because there are no buyers. You can’t multitask with cassava because you need to keep stirring it (for ten minutes) you have to do it slowly” (male, 40-49, Linde).*

## UGALI-RELATED ROLES, PRACTICES AND DECISION MAKING

Decisions regarding the staple food to consume for a household is complex in the households of the interviewees in Dar es Salaam. This is because of the shift from people’s region of origin where one staple was prepared by the female(s) in the household and consumed by everyone in the household. Interviewees related this also to the similar work that men and women undertook, which was primarily agricultural.

However, time spent in Dar es Salaam shifted eating patterns and behaviours. A common approach of the women interviewed was to ask her husband and children what they wanted to eat, and then prepare the different items. This was usually for dinner when everyone was home from school and work. For men, the preferred food was *ugali*, usually made with maize, but also a range of flours as described in

**Table 4** for health benefits and reduced costs. However, children (and often women themselves) often ate rice. The preparation of two staple foods puts added pressure on women’s time, and therefore the need for short and easy *ugali* preparation is important. Men don’t prepare foods in the home, unless they are single and live alone, then they might prepare food during the weekend, and purchase foods during the week. If women are unable to cook for the family due to time constraints, then households usually have a maid or relative living with them that will cook. Men and boys may need to be encouraged to prepare foods. Particularly as women’s participation in the labour force was just under 50% in 2012 (World Bank Data). As mentioned in an earlier section, men and women no longer eat in separate spaces with shared plates, as the quote below demonstrates.

*“Men and women in Dodoma eat separately - men and women separate, in the city they eat together. In the city people eat at different times to” (male, 20-29, Dodoma).*

Most people stock up on *ugali* flours, depending on the spoilage time.. This way they can buy in larger quantities at cheaper prices. As *sembe* could be kept the longest out of all the flours (2-3 weeks), it was another reason why the flour was preferred. Bulk purchases were often undertaken by men. Women said this is because men have money and can negotiate with sellers with regard to the price. Another opinion of a man and women interviewed is that it is a staple and men have a responsibility to provide staples for the household. However, both men and women purchase smaller amounts of *ugali* flour.

Flour was often mixed:

*"I want to eat well, so I buy and mix sorghum maize and cassava. They don't mix it when you buy dona it would just be maize. This tastes different and the texture is different. If it is packaged I won't eat well. There will be no taste. So I prefer to make an effort and build a culture for my children and show you can do it yourselves"* (female, 50-64, Mbeya).

## CONCLUSIONS

This section presents the conclusions from the study. They are organised into two areas: first, the wider issues involved in food culture and choices related to staple crops, and secondly, findings specifically related to cassava.

### Wider issues related of food culture, choices and staple foods

- **Perceptions of foods involve categories**, into hard v soft, traditional v modern foods, among those who migrated to Dar es Salaam and are influenced by their place of origin. Understanding how people structure their food world such as this can offer insight into how foods from the past, present and future are perceived and may or may not be accepted.
- **Family and the community** are considerably important to individual food choices. Extending this argument further, food choices cannot be seen as independent or strictly personal, particularly for women who are often responsible for sourcing and preparing food on behalf of the family unit that may or may not have different choices. What choices are made in this new environment, given differences in the external environment (price, availability) demonstrate the trade-offs individuals, families and communities make with their food choices.
- **How we consume foods** (in what spaces, with whom and in what ways), are influenced by social and cultural context. In the place of origin, eating arrangements often reflect social status and gender hierarchies in the family. In Dar es Salaam, arrangements become less rigid and structured, and individual preferences for certain foods are more likely to be met.
- **Perceptions of what a nutritious food** is often involve foods that were consumed in their place of origin, are natural (chemical free) and have limited processing. There was increase in concern among men and women about their health and nutrition and desire for the consumption of more natural and traditional foods from the past; therefore, products such as cassava *ugali* could be considered in this way. However, there appeared to be a lack of understanding about what a nutritious and safe food should be.
- **Gender roles** in *ugali* preparation are relatively clear. Both men and women purchase *ugali*; but there were some indications that men made the bulk purchases of flour. This is because it requires a significant amount of money that men may have access to but also because it signifies men meeting a gender responsibility- taking care of a family's food security. The preparation of two staple foods (i.e. rice, *sembe*) puts added pressure on women's time, and therefore the need for short and easy *ugali* preparation is important. Men and boys also need to be encouraged to prepare foods.

- **Migration to Dar es Salaam and gender influences staple food preferences.** Staple preferences in Dar es Salaam is *sembe*, made from maize flour. It is available and is reasonably priced. There are also strong cultural and social norms in Dar es Salaam that influence migrants to consume it. Women were less likely to consume *ugali* and more likely to consume rice.

#### Cassava specific issues (food choices and food culture)

- **Cassava is perceived to provide strength for consumers.** Cassava *ugali*, similar to other unprocessed *ugali*, is associated with strength, full stomach, and in urban areas - with men. It is also associated with older people, the traditions of *asili* (ones place of origin) and was widely consumed as porridge during Ramadan.
- **Perceptions of cassava in relation to poverty or wealth are varied.** While there was a strong perception that cassava is a “poor person’s food”, some also felt that rich people ate it because it was more expensive. Other felt that It was more your region of origin than your wealth that influenced a person’s preference for cassava *ugali*.
- **There was no clear, strong demand for cassava ugali** or cassava based products among people who did not traditionally consume cassava *ugali*. This was simply explained as they were not used to it, and did not like the taste or how sticky it is. Cassava *ugali* was less preferred by women and the young who were born in the city.
- **Perception of cassava as a natural food is strong in Dar es Salaam.** Cassava flour is often mixed with other flours, which is perceived to reduce cost and offer nutritional variety.
- **Availability and quality are problematic**, and are barriers to cassava flour consumption in Dar es Salaam. Many individuals felt that cassava flour was not available; however, it was found in small quantities in a few shops around the interviews (2-3 shops in Kawe market). People also complained of poor quality.
- **Poor storage time and small quantities sold are deterrents for cassava flour purchases:** Cassava flour, compared to sembe flour, was considered to have a shorter spoilage time, and could usually only be purchased in small quantities, which was a deterrent in people purchasing and consuming cassava flour.
- **Time for food preparation**, a particular concern with cassava *ugali*, is a strong factor in food choices. This includes the amount of dedicated time to cooking as a sole activity (cannot be conducted whilst undertaking other activities) and the strength needed for stirring.

The study reveals that cassava plays of an important role in the diets of people who do not eat cassava traditionally and among those who have settled in Dar es Salaam, particularly women and youth born in the city. However, there are findings that illuminate opportunities for cassava markets in the city, in particular by promoting dietary diversity and a return to natural and traditional foods, which was found among a smaller segment of the sample. Awareness of the availability and quality of cassava flour, particularly HQCF, and increase in the ease of preparation and storage, will need to improve if it is to be a viable alternative to the city’s main staple. As both men and women consume and purchase staples in the household, products need to be geared towards the needs and preferences of men and women. Overall, the study demonstrates the importance of examining food cultures and socio-economic factors when examining food choices.

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# APPENDIX A: FOOD CHOICE DISCUSSION GUIDE

## Introduction

We are working on behalf of University of Greenwich in the UK and IITA, Tanzania. You may remember being interviewed previously about four *ugali* products (maize, makopa, flash-dried HQCF and sun-dried HQCF) earlier this year.

We now would like to speak to you, in person, about your, and your family (if applicable)'s food habits and traditions. This provides us with more detailed information on the reasons behind your particular food choices and preferences.

This visit should take about one and half hours and we will take notes.

Do you have any questions about the study?

We can provide explanations on anything you do not understand, or stop the interview at any point you need.

Confidentiality: We will protect to the best of our ability information about you and your family and keep what you say private. All information you give us will be made anonymous. We record your contact details but this are separate from what you say.

You can ask me any more questions about any part of process, if you wish to. Do you have any questions?

Would you like to participate? Y/N

## Childhood

1. We know from your survey responses, you are from \_\_\_\_ and moved to Dar. Have you just moved once? Please describe.
2. Could you describe your staple foods from your place of origin?
  - a. Probe on cassava
  - b. From farm or market?
3. Are differences in food habits for girls, boys, women, men (rules, what you eat, where and how you eat)
4. What are the benefits of the different staple foods? Including cassava? (e.g. wellbeing, reward)
5. Where do these beliefs/sayings (proverb) associated with these benefits?

## Dar

6. Tell us about your move to Dar. What circumstances led to the move? Who do you move with?
7. Describe your initial reaction to the foods of Dar.
  - a. Types of foods
  - b. Staples
8. How have your food habits changed since living in Dar?
  - a. Probe on staples
  - b. Probe on cassava
  - c. Is this common with your community/region?
9. New differences in food habits for different members of the household? What is the cause of this change?
10. What are the benefits of your new staple foods? Including cassava? (e.g. wellbeing, reward)
11. Where do these beliefs/sayings (proverb) associated with these benefits?
12. Do you go back to your village to visit?

- a. Do you adapt or continue your dar food habits?
- b. What do you take?
- c. Do you bring foods from Dar? What? How do people react?

### Preferences and purchases

13. What are the food preferences of different family members? (probe gender differences) probe on staples.
14. Do you grow any of your staples? Or are they purchased?
15. What staples do you purchase?
16. Who does the shopping for what types of food? Probe on staples.
17. Whose income is used for what foods?
18. Where and how often do you shop for staples?
19. What is top 3 ranking:
  - a. Convenience, taste, family preference, nutrition, quality, cost, familiarity, other.
  - b. Ask what the terms mean to them eg what is convenience
20. How are your children's food habits/preferences different? Do they make their own purchases?
21. What does traditional and modern food mean?
22. Are you settled in Dar now or are you planning to move again?

With photograph of the different foods.

23. Do you remember what you prefer? Why? What about flavour?
  - Makopa (traditional made with fermented cassava) made into *Ugali*
  - *Ugali* HQCF flash dried
  - *Ugali* HQCF sun dried
  - *Sembe* - *Ugali* white maize flour, not milled
24. How does it compare to other staples you may eat? Another variation?
25. Have you heard of HQCF? What have you heard?
26. Would you buy as an alternative to your staple?



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